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The CRM process in retail and service sector firms in Japan: Loyalty development and financial return

Chieko Minami[a,*], John Dawson[b,c,1,2]

[a]Graduate School of Business Administration, Kobe University, 2-1, Rokkodai, Nada-ku, Kobe 657-8501, Japan
[b]University of Edinburgh, Edinburgh, Scotland
[c]University of Stirling, Stirling, Scotland

Abstract

Research on customer relationship management (CRM) in general has focused on the effects of customer satisfaction with CRM, customer retention and profit management, and the effects of CRM technique on performance. Conceptually, however, a sequence of effects of CRM is expected, from CRM implementation to financial performance, but this sequence has not been explored. Whilst several definitions of CRM have been proposed, this article defines CRM as relationship-development programmes based on IT. CRM is regarded as the integration of relationship technology (i.e. data consolidating and data mining) with loyalty schemes. Survey research was conducted in Japan in the retail and service industries to test three hypotheses: (1) a firm's relationship orientation has a positive effect on CRM implementation (data warehousing, data mining, using customer data for decision making); (2) CRM implementation has a positive effect on return on equity; and (3) CRM implementation has an indirect effect on return on equity, mediated by customisation. Using a structural equation model the first hypothesis was supported, but the third hypothesis was only partially supported. In these analyses a direct effect of CRM implementation on return on equity (ROE) was supported; however, a negative impact of customisation on ROE was found.
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1. Introduction

Customer management itself is not a new concept. The development in the mid-1990s of customer management techniques using IT (termed CRM), with the IT being used to track multiple activities of customers, distinguishes CRM from earlier approaches to customer management. Consulting firms assert that the CRM concept enables customer loyalty-building and profitable segmentation. CRM has been often discussed in academia, in the context of relationship marketing. However, researchers have recently started to pay more attention to CRM per se, instead of regarding it as just an applied area of relationship marketing.

CRM practice is characterised by its technological elements. Since CRM involves repetitive practices for transferring customer data into the actual customer relationships (Swift, 2001), it requires practical technologies for transferring information. IT vendors focused on the technologies such as computer telephony integration (CTI), data warehousing, application software, and system integration, etc., which are used to implement the CRM concept. The managerial value of CRM is in customer loyalty and relationship building, although it has foundations in technological dimensions. Therefore, CRM is defined as *customer relationship building programmes based on IT*. Such programmes may be directed at loyalty building, but other uses are also in evidence.

Conceptually, CRM is supposed to enhance value to customers through raising satisfaction levels on transactions. If customers appreciate the value provided by a CRM programme, they are expected to continuously enhance the relationship with the firm involved through

*Corresponding author. Tel./fax: +81 78 803 6931.
E-mail address: cminami@kobe-u.ac.jp (C. Minami).
[1]Visiting Professor at ESADE Barcelona, Spain.
[2]Visiting Professor at UMDS, Kobe, Japan.

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loyalty to the products/brands, purchasing more, advocating the firm to others, etc.. Such a customer, who has repetitive or loyal behaviour, brings about additional financial value to the firms. Although the implementation of CRM involves large investments in IT and management, it is expected to yield a profitable outcome, as a result. Therefore, a sequential effect of CRM should be expected from customer satisfaction to financial benefit for the firm. However, most research on CRM has tended to test partial causalities, for example, impact of CRM on customer satisfaction or customer retention on financial performance, other than the direct effect of CRM on financial performance, even though the sequential effect of CRM is recognised.

This paper tests the sequential effect of CRM strategy on company profitability. It is based on survey research undertaken in Japan in 2005. First, we explore the theoretical approach to CRM by reviewing CRM in the context of relationship marketing and loyalty marketing. Second, we summarise the previous empirical research and present the conceptual framework. Finally, we test our hypotheses based on the conceptual framework and present some implications.

2. Conceptual framework

2.1. Theoretical approach to CRM

Early in the conceptualisation of CRM in the field of marketing, Parvatiyar and Sheth (2001) explored the conceptual foundations of CRM based mainly on the relationship marketing concept. They attributed the development of CRM to the changes of business circumstances with IT, especially innovation of firms' interfaces with customers and total quality philosophy associated with cost reduction efforts. They paid attention to customer selectivity and the simultaneous realisation of efficiency, instead of viewing CRM in a narrow sense of database marketing. They developed the CRM implementation process model which consists of four components: CRM relationship formation, management and governance, performance, and evolution. They regarded loyalty and customer satisfaction as one aspect of CRM performance, in addition to strategic and financial goals. They explain that the overall purpose of CRM is to improve marketing productivity and to enhance mutual value for the parties involved in the relationship.

In recent work defining CRM, Boulding et al. (2005) provided an overview on CRM research, questioning whether CRM is just repackaging the basic marketing concept, using ideas from evolutionary economics, which forces paradigm shifts in firms. They pointed out that the concept of value maximisation, whereby a firm maximised profits and consumers maximise utility is not a new idea. However, they concluded that CRM is the outcome of the continuing evolution and integration of marketing ideas and newly available data, technologies, and organisational forms, based on successful results of several empirical studies of CRM. They emphasised the concept, dual creation of firm and customer value as a significant element of CRM.

Payne and Frow (2005) identified three alternative perspectives of CRM: the implementation of a specific technology solution project, the implementation of an integrated series of customer-oriented technology solutions, and a holistic approach to managing customer relationships. They adopted the broad, strategic perspective and developed the CRM conceptual framework for strategic implementation. They argued that the role of CRM is to enhance customer value, and so result in enhanced shareholder value. Considering this dual value issue of Payne and Frow (2005), we now discuss customer loyalty issue first, and then focus on the profitability issue for firms by retaining customers.

2.2. Context of relationship marketing

Technology is essential to CRM implementation. Collecting customer data, disseminating, using and integrating them within the firm, requires technology. However, building or enhancing relationships with customers is a more crucial factor for CRM. CRM has been regarded as an applied area of the theory of relationship marketing. In this section, a need to extend relationship marketing is argued.

The concept of relationship marketing has an extended history in supplier–buyer relationships in industrial marketing, channel member management or governance in the channel of distribution, and service providers–users interaction management. Several researchers have tried to identify the relationships which should be managed and have theorised the functions of the patterns of relationships between firms or service providers and users in those fields. Although the earlier publications about relationship marketing tend to describe the existing relationships between organisations (e.g. Hakansson, 1982; Anderson and Narus, 1990), some researchers have tried to extend, theoretically, the relationship concept between organisations to consumers. Extending relationship marketing to consumers is controversial. Support for it is based on the technological advances and feasibility of database marketing (e.g. Sheth and Parvatiyar, 1995a, b). On the contrary, there is some scepticism about the appropriateness of the extension (Gruen, 1995; Fournier et al., 1998; O'Malley, 1998; O'Malley and Tynan, 2000).

Sheth and Parvatiyar (1995a) proposed that due to technological advances direct marketing can be renamed as relationship marketing, in the context of a marketing paradigm shift from transactional marketing to a relationship orientation. In their discussion, technological developments in electronic communication systems are making it easier for consumers to interact directly with the producers and producers can be more knowledgeable about consumers, maintaining and accessing sophisticated databases, at a very low cost. They also emphasised the consumers' tendency to reduce their choice set and engage in relational market behaviour. Consumers are assumed to prefer simplifying their buying and consuming tasks, simplifying information processing, reducing perceived risks, and maintaining cognitive consistency and a state of psychological comfort (Sheth and Parvatiyar, 1995b).

However, there are questions about extending relationship marketing to mass consumer markets. O'Malley and Tynan (2000) discussed the conceptual problems in extending relationship marketing to consumers in addition to the practical issues. They argued the inappropriateness of relationship marketing in consumer markets based on the following points:

- relationship building between companies and consumers in the market has difficulties or limitations,
- loyalty programmes do not necessarily mean relationships, and
- database marketing is just a collection of technical tools.

They argue that the emotional dimension of the consumer should be considered in relationship building. They attribute their scepticism about appropriateness to the size of consumer markets, the nature of competition, the anonymity of customers, the limited interaction between consumer organisations, and the difficulties associated with potentially intrusive technology.

The differences between business to business and business to consumer relationships have focused on forms, sizes, dependency of relationships (Gruen, 1995), on levels (firm or individual) and structures of relationships (Iacobucci and Ostrom, 1996). Stone et al. (1996) also pointed out that binary relationships (in which a customer is 100% loyal to one company or to another) are rare and companies are vulnerable to switching behaviours in marketing.

2.3. Loyalty schemes and relationship building

The loyalty programme was originated by American airline firms as frequent flyer programmes and followed by hotel, finance-card and retail firms. The concept of the loyalty programme is to reward consumers based on the accumulation of purchases. The loyalty programme coincides with database marketing, because it is reliant on a customer database to identify loyal customers.

The loyalty programme is regarded as rhetoric of relationship marketing, as far as it claims that it is aiming to seek a customer's loyalty. It attracts firms as a way of promotion and of generating customer information. Most firms get involved in a loyalty scheme to try to keep competitors out of the market (O'Malley and Tynan, 2000; Dowling and Uncles, 1997). The effectiveness of a loyalty scheme is arguable in terms of the vague concept of customer loyalty and its measurements (O'Malley, 1998; O'Malley and Tynan, 2000), the value issue (O'Malley, 1998), the polygamous nature of loyalty (O'Malley, 1998; Dowling and Uncles, 1997), market competitive structure and the position of brands (O'Malley, 1998; Dowling and Uncles, 1997).

O'Malley (1998) pointed out that the problem lies in identifying whether loyalty is an attitudinal or behavioural measure. While an attitudinal measure such as customer satisfaction is not necessarily reliable, the behavioural measure of frequency or recency of purchase does not build relationships. In a consideration of both attitudinal and behavioural issues of loyalty, Dick and Basu (1994) reviewed past literature which dealt with both favourable attitudes compared with potential alternatives and repeated patronage for loyalty. Based on that, they conceptualised that cognitive, affective, and conative antecedents of relative attitude are identified as contributing to loyalty, along with motivational, perceptual and behavioural consequences. They suggested that the key to the framework is the conceptualisation of loyalty as the relationship between the relative attitude toward an entity (brand/service/store/vendor) and patronage behaviour.

Based on the critical review of literature of business to consumer relationships, O'Malley and Tynan (2000) concluded, although taking into account the conceptualisation of Dick and Basu, that the majority of business to consumer relationships are distant and discrete, even though social exchange theory may still be effective in situations where relationships are recognised by both marketers and consumers. Their point is that it is questionable whether or not customers are rewarded by something valuable.

Dowling and Uncles (1997) put more emphasis on the strategic point of loyalty schemes. They suggest that many or most heavy users are multi-brand loyal for a wide range of products and services. In the arguments of brand management, they suggest that leveraging the brand's value proposition in the eyes of the customer should be significant strategically, rather than keeping current customers and have them buy more. Furthermore, they suggest that it is probably a mistake for a company to introduce a frequent-buyer programme if it is selling a parity brand in a competitive market and merely adding a me-too scheme.

2.4. Customer retention and management

The advocates of loyalty marketing mostly attribute the profitability of loyal customers to customer retention or customer equity. Reichheld and Sasser (1990) proved that acquiring new customers carries large costs and retaining customers can yield profits, revealing the high correlation between customer retention and profitability among various industries. If firms retain the customers who purchase frequently or spend larger amounts of money, they can reduce the promotion costs for acquiring new customers and generate an improved sales: profit ratio. As a result, keeping loyal customers can yield profits for firms.

Based on this idea, the relationships with customers can be regarded as an asset.

The concept of customer retention is not necessarily argued as integral to CRM; however, it is regarded as a similar concept to CRM. The concept of "customer equity" was developed by Blattberg and Deighton (1996). Customer equity is the idea that customer relationships are an asset for firms. It is defined as the sum of value which a customer brings to a firm during their stay at the firm as their customer. Blattberg and Deighton made the point that the balance between acquiring new customers and retaining the current customers is significant for managerial purposes. This idea has been developed in the management policies of customer assets, which involves management of customer life cycles, numerical customer value estimation, balancing the mix of customer acquisition and retention, and additional sales (Blattberg et al., 2001).

2.5. *Previous research approach and conceptual framework*

Accepting an argument that CRM creates value for customers and that loyal customers bring value to the firms, then we should expect a sequential effect of CRM as shown in Fig. 1.

If firms which implement CRM satisfy their customers, those customers tend to continue their purchasing behaviour with the seller or product/brand. Firms can yield profits by retaining their customers.

Some researchers have postulated the causal relationship that CRM implementation induces customer satisfaction (1 in Fig. 1). Mithas et al. (2005) empirically tested the effect of CRM applications on customer knowledge and customer satisfaction. Using archival data on a broad cross-section of US firms, they found that CRM applications are likely to affect customer knowledge. They concluded that the knowledge helps firms improve their customer satisfaction. They attributed the effect of CRM applications on customer satisfaction to the following three reasons. First, customers are satisfied because CRM helps firms customise their offerings for each customer. Second, CRM applications enable firms to improve the reliability of consumption experiences by better management of customer accounts. Third, CRM applications help firms manage customer relationships effectively across the stages of relationships.

Srinivasan and Moorman (2005) highlighted the context of business strategy to study the effect of CRM. They empirically tested the effect of a firm's strategic commitments on the effectiveness of its CRM in online retailing. They used customer satisfaction to measure the effectiveness of CRM.

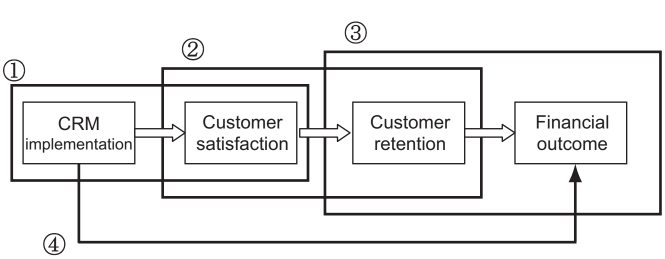

Fig. 1. Conceptual model of CRM outcome.

Part 2 of Fig. 1, the link of customer satisfaction with retention, has been argued in the customer satisfaction literature. For example, customer retention behaviour has been related to the logic of "switching cost". Gustafsson et al. (2005) examined the effects of customer satisfaction on retention. They paid attention to the two kinds of customer commitment, such as affective commitment and calculative commitment. The latter is concerned with customer's calculation of switching cost. They focused on the situational and reactional trigger conditions to moderate the satisfaction–retention relationship in a study of telecommunication services. They found the effect of customer satisfaction and customer commitment on retaining services. They also found that churn mediates the customer satisfaction—retention relationship.

On the other hand, Verhoef (2003) investigated the CRM effectiveness as customer retention and customer share development, influenced by customer relationship perceptions (CRP) and relationship marketing instrument (RMI) such as loyalty programmes and direct mailings. Their research showed that affective commitment and loyalty programmes providing economic incentives positively affect both customer retention and customer share development, whereas direct mailings influence only customer share development.

The third relationship in Fig. 1, that between customer retention and financial outcome, has been discussed in CRM and other contexts, for example, in service marketing. Based on the concept of customer retention, research about profitable segmentation has been developed focusing on the brand equity and customer retention (Rust et al., 2000), and different levels of profitability of segmentation (Zeithaml et al., 2001).

Another approach to customer profitability is assessing customer lifetime value. Reinartz and Kumar (2003) developed a framework that incorporates projected profitability of customers in the computation of lifetime duration, based on their empirical research with a three-year database. Venkatesan and Kumar (2004) redefined customer lifetime value as the methodology of customer selection and marketing resource allocation. They evaluated the effectiveness of the methodology, providing a dynamic framework which maintains or enhances customer relationships through the various channels of contacts and simultaneously maximises customer lifetime value. As a result, they proved that marketing contacts through various channels do not have a linear effect on improving customer lifetime value and that selecting customers based on lifetime value provide higher profitability than other selections of customers based on other reasons. Furthermore, the influence of customer future-focused considerations on a customer's service retention decision was examined by Lemon et al. (2002). Ryals (2005) measured the lifetime value of customers by calculating customer acquiring cost and retention cost chronologically in two longitudinal case studies of financial services in both business to business and business to consumer setting. This research finding is that larger business customers created more total value, and the value of the customer was closely associated with lifetime revenues.

In short, most researchers are concerned with how customer retention is related to cost structures. While some research has focused on the profitability resulting from lower costs associated with customer retention, others emphasised the importance of cost reduction across the whole management system.

In addition to the studies that are framed within the relationships in Fig. 1, there have been studies that have considered managerial mechanisms within the CRM process. Johnson and Selnes (2004) paid attention to the managerial problem of the total portfolio of customers which consists of customer clusters with different relationship stages. They classified the exchange relationships between companies and customers and developed the dynamic model of the management of customer relationships. Rust et al. (2004) aimed to build lifetime value profitability models by considering competitive circumstances, by taking into account patterns of customer brand switching behaviour, rather than paying attention only to customer retention. Cao and Gruca (2005) focused on the issue of adverse selection and costly screening from prospects. They used CRM system data of a financial service and found that particular prospects of customers tend to respond to the firms' offerings in the cross-selling situation in direct marketing. Based on the finding, they developed a model to identify potentially profitable customers among prospects. Reinartz et al. (2004) explored managerial process and dimension in CRM. They developed a model of the impact of CRM process on performance, with presence of CRM technology and organisational adjustment as moderators. Jayachandran et al. (2005) conceptualised the relational information processes, which a firm systematically uses to manage customer information to establish long-term relationships with customers. They found that the relational information processes play a significant role in enhancing an organisation's customer relationship performance, with moderating effect of CRM technology.

The research on CRM undertaken in Japan has taken a different direction than the American and British based research. CRM was introduced to Japan by consulting firms in the late 1990s. Although the CRM market has grown, academic research in the general area of CRM has focused on data mining. Most researchers approach CRM as an example of database marketing. As a result, they have focused on the analytical procedures of CRM without the discussion of relationship building. This research exists firmly within phase 1 in Fig. 1.

As a background of this situation, however, there is a highly competitive situation in the retail sector in Japan. Retailers are facing new competition because of deregulation of the laws affecting the development of new stores. They are suffering from consumers' switching store behaviour and bargain hunting by 'cherry picking' consumers. Because of the declining effects of promotions, retailers have started to introduce frequent shoppers programme (FSP) (Nakamura, 2000; Shimizu, 2004).

According to Koga (1998), data mining techniques can discover latent rules or patterns. Koga suggests that techniques in data mining, such as association techniques, analyses of chronological patterns, classification techniques, and clustering techniques are useful for discovering the combinations of products which have high probabilities of purchase at the same time, finding changing patterns of demands, identifying non-loyal customers, and targeting customers to increase response rate of DM. In relation to this, Swift (2001) suggests that data mining technique can be used for both rule discovery and testing hypothesis.

The Distribution Economics Institute of Japan (DEIJ) has a major programme of research in retail CRM.[3] Nakamura (2000) and Shimizu (2004) tested the effect of database marketing on sales volume by using datasets provided by DEIJ. They identified loyal customers by classification techniques. They postulated an increase of sales by focusing on loyal customers. Nakamura and Sato (2001) suggested that FSP were a barrier to consumers' switching behaviour in the more competitive circumstances which prevail. They put emphasis on the importance of FSP data which identify each customer. The addition of POS data that indicates purchase time, product, amount, and price, to customer data makes the targeting of customers more effective. They used the POS data with customer ID to test hypotheses about how to group products effectively for shelf allocation. They studied the beer category using purchase data of loyal customers and hypothesised which other products tend to be purchased with beer. They found grouping patterns and tested their hypothesis by changing the layout of the shelf of all stores of a chain according to their findings for 3 months in 1999. The stores had 20% increase of new customers and increased volume of purchases by loyal customers (DEIJ 2003).

The researchers in the DEIJ project used 3 months to 1 year data from this scan panel, to analyse the effect of retail marketing practices such as in-store promotion, and the extension of opening hours. The research aimed to help category management, product development, merchandising, and differentiation from competitors. They used the scan panel data per se, or integrated them with other market data, and convenience store transaction data, to

[3]DEIJ, as a non-profit research organisation, under the guidance of the Ministry of Economy, Trade and Industry, has conducted joint research with firms and university researchers, providing their own scan panel dataset. DEIJ installed scan panels at supermarkets and has collected household purchase data since 1983. Later it installed the same system at convenience stores. The DEIJ panel holds customer ID card data and their purchase data are accumulated based on customer IDs.

apply analytical techniques of clustering, association (shopping basket analysis), etc..

Shimizu (2004) examined how FSP data should contribute to the retailers' marketing strategy by using data mining techniques. He used the FSP data derived from a retailer for 3 months in 2002 and sampled 1296 transactions among the data ranked by amount of purchase. He showed the steps to identify and classify customers based on real data with data mining techniques. He suggested a process of identifying loyal customers, grouping loyal customers, assessing the profitability of each loyal customers segment, ranking the segments, and checking ranking of segments.

While attention to data mining techniques has increased, Abe (2004) has questioned the popularity of data mining technique, which is categorised as computer-based discovery of rules. Instead, he developed an analytical model based on consumer behaviour theories on traditional RF (recency and frequency) data analysis and estimated the probability of the unobserved defection of customers.

The Japanese research on customers is reliant on the profitable targeting concepts developed in the United States and tends to ignore the theoretical aspects and meaning of customer loyalty. The research in general, by focusing on analytical methods, makes no attempt to understand the factors underlying repeat purchase and has not explored the issues raised in Fig. 1.

The main conclusions to be drawn from the existing literature are:

- existing research has a strong focus on the three particular areas of: effects of customer satisfaction of CRM, customer retention and profit management, and effects of CRM technique on performance;
- there remains debate on whether or not relationship marketing can be extended to consumer markets with firms having a relationship orientation then implementing CRM;
- conceptually, sequential effects from CRM implementation to enhanced financial performance are expected, but have not been explored;
- the research stream in Japan has focused on techniques of data analysis and data mining aspects of CRM.

3. Hypotheses and methods

The present study attempts to address some of the gaps inherent in this review of literature in four ways, by

- undertaking a study in Japan that is outside the existing stream of work in Japan;
- testing whether or not firms with a relationship orientation will adopt CRM implementation; and
- testing the effect of CRM effect on firms' performances;
- taking the CRM process as the two components of CRM implementation with data collecting and analysing and loyalty marketing based on FSP analysis.

Support for the extension of relationship marketing into the consumer market is attributed to the feasibility of marketing based on IT. On the other hand, the reason against the extension is the idea that the transactions with consumers tend to be discrete, anonymous, unidirectional, and polygamous. First, we test whether or not firms with relationship orientation will adopt CRM implementation, as a method of customer relationship management based on IT. The extent to which firms have a customer relationship orientation can be related to the extent that they collect and share customer data within organisations and use the consolidated data for strategic decisions. Sharing customer data within organisations and use of the data strategically is termed data warehousing.

The concept of relationship orientation is supposed to consist of the concept of continuous and successful transactions with current customers and especially efforts to keep key customers, resulting in large sales. If firms have IT infrastructure to keep their customers more effectively, they should enhance this orientation. That is why, this relationship orientation should be related to CRM implementation.

CRM implementation can be viewed as the integration of the use of strategic customer data and a loyalty scheme through the use of IT. CRM implementation can be divided into two parts. CRM consists of data collection and analysis, and developing customer loyalty. The latter part requires marketing techniques which customise communication with customers and offerings to customers. The first hypothesis to test can be stated as shown below.

H1. Having a marketing relationship orientation with its customers has a positive effect on CRM implementation in a firm.

Loyalty schemes should have an important role in CRM to enhance customer relationships, if firms expect enhanced financial outcome by retaining customers. Therefore, in order to explore the link between CRM and financial performance we should pay attention to what kind of loyalty seeking activities are conducted by firms. The degrees of customisation of firms' offerings to customers are used to operationalise the concept of loyalty marketing.

The concept of loyalty marketing is related to the idea of retaining the loyal customers. In order to identify who is loyal to the firm, firms can use the transaction data base and analyse their customers' behaviours. Frequency, recency and monetary value analysis is a commonly used technique for this kind of analysis. Continuous and frequent transactions with the firm and financial contribution to the firm should be regarded as an appropriate measure for the loyal concept. Where CRM is regarded as a relationship development programme, firms can customise their offering in terms of product/services, price range, or promotion based on the extent of the customer's loyalty.

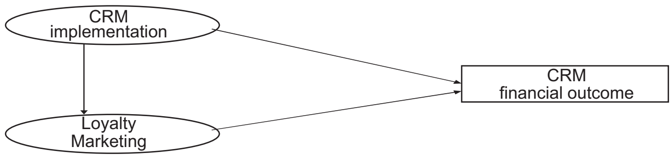

Fig. 2. Structure of CRM implementation and performance.

This loyalty marketing approach should be a method of relationship development.

Building a customer database and introducing a loyalty scheme requires considerable investment. On the other hand, successful customer retention is expected to yield profits. The success of a CRM programme can be measured by profits or return on investment rather than by sales increase. The model which indicates a direct effect of CRM on financial outcome and indirect effect of loyalty marketing is shown in Fig. 2.

We can use this model to test the following hypothesis:

H2. CRM implementation has a direct effect on financial outcome

H3. CRM implementation has an indirect effect on financial outcome, mediated by customisation through loyalty marketing.

CRM implementation should have a direct effect on CRM financial outcome, because of customer data collection and analysis (Hypothesis 1). However, in order to enhance customer relationships, firms are expected to implement CRM, and then try to approach their customers by customising their products/services or communication more effectively (i.e. loyalty marketing implementation). As a result, firms are expected to generate an improved financial outcome based on the successful approach to their customers. Therefore, the paths from CRM implementation → loyalty marketing → CRM financial outcome should be tested. (Fig. 2). This path is hypothesised as H3.

Survey data were obtained from a commercial database of stock-market-listed firms in Japan. Samples were drawn from the service industries, retail industries, and consumer goods industries. Senior managers were asked to respond to the survey.

The full questionnaire, not all of which is utilised in this paper, consisted of 9 parts:

(1) how the firms are engaged in customer relationship management,
(2) how they are using customer data,
(3) how they are selecting and customising their offer to customers,
(4) to what level they are investing in information technology,
(5) what they understood about the customer relationship management,
(6) how they are managing their websites,
(7) their strategic orientation,
(8) firm profiles,
(9) the characteristics of the industries to which responding firms belong.

The sample comprised 550 firms and 233 responses were received. The response rate was 42.4%. The data set was made from the responses in retail industry (55) and service industry (114). After cleaning to obtain fully completed returns from relevant firms, 141 responses were used.

Operationalised variables to test the hypotheses are shown in Table 1. The construct ‘‘relationship orientation’’ was operationalised as an essential element with two variables relating to relationship maintenance with key customers and continuous transactions with customers.

The hypothetical constructs, ‘‘data warehouse’’, ‘‘analytical CRM’’, ‘‘FSP customisation’’ were integrated and made into each variable by adding several responses from questions. Those questions were tested in experimental factor analysis. The construct validity was tested and confirmed since each set of questions fell into each factor (see Appendix A for details). Cronbach α was used to test the reliability of these variables. Return on equity (ROE) was used for the measurement of profitability. The sample data consists only of listed firms. ROE indicates the efficiency of corporate management by using stock capital. ROE was computed as profit of current period divided by shareholders' equity (capital) of average of beginning and end of period.

In order to test each hypothesis, structural equation modelling was used. The reason why SEM was selected is that sequential effects of constructs (paths) had to be tested (see Fig. 2).

Taking the path from relationship orientation to CRM implementation, and the direct path from CRM implementation to ROE or the indirect path to ROE mediated by customisation, the integrated conceptual model to be tested is shown in Fig. 3.

The variables relating to the market competitive structure were input to the model as a control variable to explain the effect on ROE.

4. Results

The results of testing the structural equation models relating to hypotheses are shown in Table 2 and Fig. 4. The models could not be rejected in χ^2 test (p value >0.5) which tests the gap between the model and data. As a result the fitness of models was confirmed.

As Table 2 shows, the model itself is regarded as a sound explanatory model (GFI: 0.946, AGFI: 0.907 and p value: 0.123). The construct, ‘‘CRM implementation’’ consists of ‘‘data warehouse’’, ‘‘analytical CRM’’, and ‘‘strategic customer data use’’ variables. The correlation between relationship orientation and CRM implementation was confirmed (standardised estimates: 0.667 and significance level: 1%). Hypothesis 1 was supported. This result indicates that firms translate their relationship orientation

Table 1
Summary of Constructs and Measurement

Construct	Name of variables		Measurement	α*
Relationship orientation	KC	Key customer	We regard relationship maintenance with key customers as important	
	CR	Customer retention	We regard continuous transaction with customers as important	
CRM implementation	DW	CRM data warehouse (3 items)	We consolidate customer data by their name	0.81
			We share customer data within each department	
			We share customer data among functions	
	ACRM	Analytical CRM (3 items)	We analyse transactions in terms of frequency, spend or recency	0.85
			We practice data mining by using customer data	
			We test hypothesis using customer data	
	SCD	Strategic customer data use	We use customer data for managerial decision making	
Customisation	FSP	FSP customisation (6 items)	We change promotion methodology based on purchase frequency data	0.93
			We change product/price range on offer based on purchase frequency data	
			We change promotion methodology based on purchase financial data	
			We change product/price range on offer based on financial data	
			We change promotion methodology based on purchase recency data	
			We change product/product range on offer based on purchase recency data	
	LM	Loyalty marketing	We change product offer and price range based on acquired points	
	COM	Intensity of competitiveness	Intensity of competitiveness in the market	
	SALES	Relative sales revenue	Sales revenue last year compared with competitors	
	ROE	ROE	2004 fiscal year, return on equity	

Note: All measures employ 5-point scales (Not at all/A great deal); the variables of COM and SALES use the scales (weak/strong).Cronbach α was tested for reliability check about the variables consisting of several items. ROE was computed as profit of current period divided by shareholder's equity (begining of period + end of period)/2.

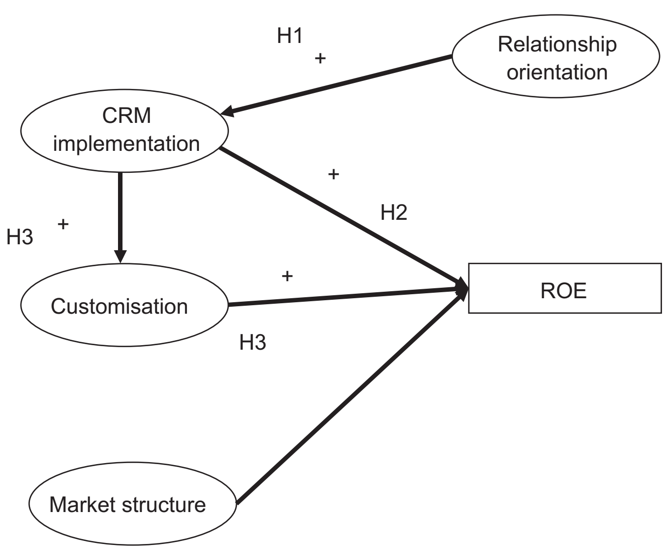

Fig. 3. Conceptual model of relationship of CRM on ROE.

Table 2
Results of structural equation model

Structural path	Standaridised estimates	Hypotheses
Relationship orientation → CRM implementaion	0.667a	H1 Supported
CRM implementation → Customisation	0.836a	H3 Partially supported
CRM implementation → ROE	0.519b	H2 Supported
Customisation → ROE	−0.410c	H3 Not supported
CRM implementation → DW	0.777	
CRM implementation → ACRM	0.842	
CRM implementation → SCD	0.801	
Customisation → FRP	0.925	
Customisation → LM	0.533	
Relationship orientation → KC	0.913	
Relationship orientation → CR	0.662	
COM → ROE	−0.184	
SALES → ROE	0.235	
χ2	41.422	
df	32	
p	0.123	
GFI	0.946	
AGFI	0.907	
RMR	0.73	
R2	0.17	

Note: significance level a = 1%, b = 5%, c = 10%.

into strategic customer data analysis and decision making by using IT, which is CRM implementation.

However, although a direct path of CRM implementation to ROE was found to be significant (significance level 5%), "customisation" has a negative impact on ROE (significance level 10%). Theoretically, customisation practice based on data analysis is expected to be effective in retaining or developing customer relationships. However, it was found that customisation is linked to a small decrease in ROE. The positive impact of CRM implementation on financial outcome and positive impact of CRM implementation on customisation activities were supported; however, a positive effect of customisation on financial outcome was not supported. In other words, a benefit through loyalty marketing was not confirmed.

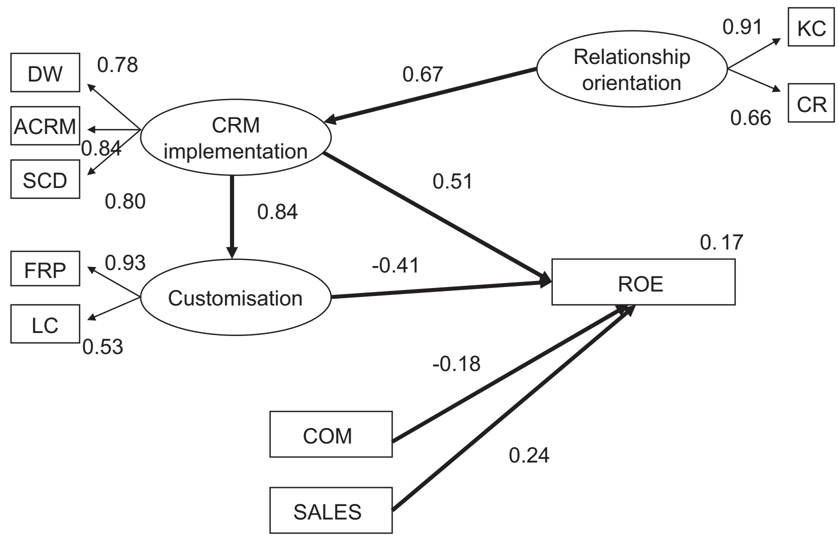

Fig. 4. Results of the effects of CRM on the ROE model.

5. Summary and discussion

Structural equation models were used to test the following hypotheses.

(1) The relationship orientation of a firm has a positive effect on CRM implementation.
(2) CRM implementation has a direct effect on financial outcome.
(3) CRM implementation has an indirect effect on financial outcome, mediated by customisation through customisation.

Although the first and second hypotheses were supported, the third hypothesis was only partially supported. It was found that there was the positive effect of CRM implementation and negative impact of customisation on ROE. The result that customisation has a negative effect on ROE raises some points of discussion.

Firms started to introduce loyalty schemes from the late 1990s. Major retailers, particularly, started to implement loyalty cards from 2001. It is possible that firms are not yet receiving the returns on the investments. They are still at an early stage of CRM and loyalty scheme implementation in Japan. There is likely to be a lag effect on return on the necessary investment in IT and this may be the reason for the lack of support for the second hypothesis.

CRM consists of two important parts, namely business intelligence and loyalty marketing for the service and retail industries. Many firms have not yet learned fully how to communicate and make offers to specified customer groups. Whilst such offers may be present they are not yet effective as a marketing tool. Firms are learning the techniques and benefits of processing and interpreting customer information. Swift (2001) asserted that the offering of personalised product/services is not expected to be successful, unless firms are capable of implementing effectively the whole of CRM.

Organisational learning is related to the age and experiences of organisations (Sinkula, 1994). Firms in this research seem to be still at a learning stage. Huber (1991) presented four constructs related to organisational learning: knowledge acquisition, information distribution, information interpretation, and organisational memory. The knowledge acquisition construct is portrayed as consisting of five sub-constructs: (1) drawing on knowledge available at the organisation's birth, (2) learning from experience, (3) learning by observing other organisations, (4) grafting on to itself components that possess knowledge needed but not possessed by the organisation, and (5) noticing or searching for information about the organisation's environment and performance (p 88). Japanese firms quite possibly have neither developed their own experiences nor have yet had opportunities of learning from others. This is particularly the case with retailers. Currently, almost the only variable seen to be able to be changed in making an offer to an individual is price. How to customise offerings to customers effectively still requires to be considered by many firms which are implementing CRM. The data have been collected by the firms but the implementation of changes in operational marketing have not been made.

Data mining as a technique is widespread; however, it does not promise immediate success in business. The findings from data mining require to be interpreted in a broader context, for example, by managers in product development, merchandising, store design and so on, rather than being only used by information processing personnel. Therefore, transferring customer information into real customer knowledge may require more knowledge and experience and so a lag effect will be apparent in any financial benefits.

Another possible issue, that underpins the results, is misperception of potential benefits in implementation. Firms may be expecting two layers of outcome in introducing a customer loyalty scheme. One is the direct promotional effect on sales. The other is realising benefits in product/service development, merchandising and assortment generation. Although firms gain knowledge on what to merchandise based on the customer data, they might not be able to get products to the shop floor in an appropriate way because of lack of supply chain capability. The results of this survey have shown that respondent companies' total investment in IT has an effect on ROE; however, to get this effect the whole business system consisting of operational CRM and supply chain-based IT is required. Therefore for CRM to yield its full benefits the organisation may need to be re-structured to become customer centric, rather than seeking a quick solution in analysing customer data.

An implication of the research reported in this paper is that there is need to explore more fully the nature of the internal processes that constitute customer relationship management. The sequence from investment in the necessary technologies for data collection and analysis, to the managerial procedures in customer communication, and the creation of customer loyalty, to the final resulting improvements in the financial position of the firm requires to be studied as a set of interacting aspects of the total concept of CRM. Because CRM is in effect a process so there will be a time lag between the investment and the financial benefits. This research has explored aspects of the internal relationships in the overall process for retailers and service firms in Japan. There is now opportunity to disaggregate the CRM process more fully to explore the structural and temporal dynamics within the process.

Appendix A

The results of factor analysis of data warehouse, analytical CRM and customisation are given in Table A1.

Table A1

Variables	Factor loading, $N = 141$	
	Factor 1	Communality
The result of factor analysis of data warehouse		
We consolidate customer data by their names	0.709	0.502
We share customer data within each function	0.852	0.725
We share customer data among functions	0.754	0.568
Eigenvalue	2.188	
Accumulated contribution rate	72.92%	
The result of factor analysis of analytical CRM		
We analyse transactions in terms of frequency and spend	0.751	0.564
We practice data mining by using customer data	0.825	0.681
We test hypotheses using customer data	0.85	0.722
Eigenvalue	2.307	
Accumulated contribution rate	76.91%	
The result of factor analysis of customisation		
We change promotion methodology based on purchase frequency data	0.865	0.749
We change product/price range on offer based on purchase frequency data	0.877	0.769
We change promotion methodology based on purchase financial data	0.833	0.694
We change product/price range on offer based on purchase financial data	0.793	0.629
We change promotion methodology based on purchase recency data	0.813	0.661
We change product/product range on offer based on purchase recency data	0.834	0.695
Eigenvalue	4.494	
Accumulated contribution rate	74.90%	

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